UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,844	12/21/2004	Benoit Saliou	FR 020068	1283

24737   7590   01/22/2009
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EXAMINER
KIM, TAE K

ART UNIT	PAPER NUMBER
2453	

MAIL DATE	DELIVERY MODE
01/22/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/518,844	SALIOU ET AL.
	Examiner	Art Unit	
	TAE K. KIM	2453	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 November 2008</u>.
2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,4-8 and 12-15</u> is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1, 2, 4-8, and 12-15</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

This is in response to the Applicant's response filed on November 5, 2008.

Claims 3 and 9 – 11 have been cancelled by the Applicant. Claims 1, 2, 4—8, and 12 –

15, where Claims 1 and 2 are in independent form, are presented for examination.

Response to Amendment

The amendment filed on November 5, 2008 is objected to under 35

U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a)

states that no amendment shall introduce new matter into the disclosure of the

invention. The added material which is not supported by the original disclosure is as

follows: the amendments to the specification beginning on Page 7, like 17, adding "A

boot sector is preferably located in a protected storage area...*such as in a memory.*"

(emphasis added). There was no previous disclosure that the boot sector is preferably

located in a protected storage area...*separate from the storage unit 34, such as in a*

memory 35" (emphasis added).

Additionally, the amendment to Fig. 3 filed on November 5, 2008 attempts to

introduce the same new matter as discussed above.

Applicant is required to cancel the new matter in the reply to this Office Action.

Response to Arguments

Applicant's arguments filed on November 5, 2008 have been fully considered but

they are not persuasive. Applicant argued:

a)   Miller shows a vastly different and incompatible solution to
        Narayanaswamy, wherein the original boot block is overwritten by a new
        boot block.

b)   The motivation to combine the teaching so Narayanaswamy and Miller is
        nowhere recognized in the prior art and in fact, each of Narayanaswamy
        and Miller solve the problem stated as motivation and therefore no such
        motivation exists.

c)   The combine teachings of Narayanaswamy and Miller do not teach or
        suggest, a system that amongst other patentable elements, comprises "a
        current boot code in a first location, the method comprising the following
        steps: upon a download request, downloading a new boot code in a
        second location, which does not overwrite the current boot code and does
        overwrite a current application code, indicating that the new boot code in
        the second location replaces the current boot code, writing the new boot
        code in place of the current boot code in the first location, indicating that
        the new boot code written in the first location replaces the new boot code
        written in the second location, downloading a new application code
        associated to the new boot code in a location, which does not overwrite
        the new boot code in the first location, indicating that the new application
        code is valid" (emphasis added).

Examiner respectfully disagrees with applicant's assertions.

1.   With regards to a), Narayanaswamy discloses that the size of the boot code

blocks 22, 24 and the main firmware block 26 are not fixed and can be changed through

the upgrade procedure [Para. 0041]. The size of the main firmware block 26 is limited

by the adjacent block 24 (update boot code block) and the size of the memory itself

[Para. 0041]. Additionally, Narayanaswamy discloses that a series of upgrades can

result in the moving or shrinking of block 22 (original boot block) [Para. 0041].

Therefore, Narayanaswamy discloses that the system has the capability of overwriting

the original boot block with new boot data during the upgrading process.

Narayanaswamy and Miller are compatible systems as a result of the flexibility of the

memory block size and location, within the limits of the memory itself, which allow the

overwriting of the original boot block based on the requirements of the upgrade.

2.   With regards to b), the incorporation of Miller to reject the current application

under Section 103(a) is to notify the application that the steps of writing to a second

block in memory and then copying that information into the first block in memory were

well known within the art as far back as September 30, 1998. Those essential steps, as

claimed within the application, were not specifically disclosed in Narayanaswamy.

        The applicant should not be overly rigid in determining obviousness. The

Federal Circuit had erred by applying the teaching-suggestion-motivation (TSM) test in

an overly rigid and formalistic way. KSR, 550 U.S.at ___, 82 USPQ2d at 1391. [See

MPEP 2141].

        As stated in *MPEP 2141, Section III*, the key to supporting any rejection under 35

U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would

have been obvious. The Supreme Court in KSR noted that the analysis supporting a

rejection under 35 U.S.C. 103 should be made explicit. The Court quoting In re Kahn,

441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that "[R]ejections

on obviousness cannot be sustained by mere conclusory statements; instead, there

must be some articulated reasoning with some rational underpinning to support the

legal conclusion of obviousness.'" KSR, 550 U.S. at ___, 82 USPQ2d at 1396.

Exemplary rationales that may support a conclusion of obviousness include:

(A)   Combining prior art elements according to known methods to yield

predictable results;

(B)   Simple substitution of one known element for another to obtain predictable

results;

(C)   Use of known technique to improve similar devices (methods, or products)

in the same way;

(D)   Applying a known technique to a known device (method, or product) ready

for improvement to yield predictable results;

(E)   " Obvious to try " – choosing from a finite number of identified, predictable

solutions, with a reasonable expectation of success;

(F)   Known work in one field of endeavor may prompt variations of it for use in

either the same field or a different one based on design incentives or other

market forces if the variations are predictable to one of ordinary skill in the art;

(G)   Some teaching, suggestion, or motivation in the prior art that would have

led one of ordinary skill to modify the prior art reference or to combine prior art

reference teachings to arrive at the claimed invention. See MPEP § 214 3 for a discussion of the rationales listed above along with examples illustrating how the cited rationales may be used to support a finding of obviousness. See also MPEP § 2144 - § 2144.09 for additional guidance regarding support for obviousness determinations.

As stated above, Narayanaswamy discloses that the updated main firmware may vary in size and that block of memory can be expanded to accommodate the updated main firmware [Para. 0041]. Since the size of the main firmware block 26 is limited by the adjacent block 24 [See Fig. 2], it is anticipated that an update to the main firmware will require a larger block of memory than is allocated currently in block 26 [Para. 0041].

Incorporating the well known steps in Miller to Narayanaswamy resolves this issue by copying the updated boot code in block 24 to the current boot cold block 22 before updating the main firmware. This will allow that the maximum amount of memory available within the memory device is allocated to the updating of the main firmware.

The fact that Miller and Narayanaswamy solve a similar problem (backup copy of the boot code is accessible during boot code updating) with different methods, alone, does not refute the obviousness and motivation to combine the two. It can be used to further support the Examiner's rationale as to why the combination of the two arts will result in predictable results since the use of a known technique (Miller) to improve a similar method (Narayanaswamy) for the same reasoning (ensure that a working boot code is still available in case of errors in the update process) shows further support of obviousness (See MPEP 2141).

3.   With regards to c), Examiner maintains that the combined teachings of

Narayanaswamy and Miller teach the limitations of Claims 1 and 2. The detailed

explanation as to how is further described in the prior art rejection below.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

Claims 1, 2, 4 – 8, and 12 – 15 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Appl. 2001/0011347, filed by Shanthala Narayanaswamy et

al. (hereinafter "Narayanaswamy"), in further view of U.S. Patent 6,308,265,

invented by Gregory L. Miller (hereinafter "Miller").

5.   Regarding <u>Claims 1 and 2</u>, Narayanaswamy discloses a transmission system

and a method [Title; Fig. 3; Para. 0007, 0008, and 0009] of downloading software

programs into a storage unit, the software programs including a boot code and an

application code [Para. 0003 and 0004; upgrading and remapping of the boot and main

firmware codes], the boot code allowing downloading of the application code [Para.

0035, 0036, and 0038; boot code checks data to determine if new main firmware is

available, then downloads new firmware], the storage unit comprising at least a current

boot code in a first location [Fig. 2; Para. 0007; two separate regions to store boot code,

one active (block 22), one inactive (block 24)], the method comprising the following

steps: upon a download request, downloading a new boot code in a second location,

which does not overwrite the current boot code [Para. 0007, Lines 5-8; two separate

regions to store boot code, one active, one inactive; download new boot code into

inactive region]; indicating that the new boot code in the second location replaces the

current boot code [Para. 0029 and 0030; upon verification of download, terminal reboots

and overwrites the processor vector table with the vector table copy of the new boot

code]; downloading a new application code associated to the new boot code in a

location which does not overwrite the new boot code in the first location [Fig. 2; Para.

0035, 0036, 0037, and 0038; if new main firmware is found, it is downloaded to another

memory location (block 26) different from the new boot code]; and indicating that the

new application code is valid [Para. 0038; reset command after successful transfer].

Narayanaswamy further discloses that the size of the boot code blocks 22, 24

and the main firmware block 26 are not fixed and can be changed through the upgrade

procedure [Para. 0041]. The size of the main firmware block 26 is limited by the

adjacent block 24 (update boot code block) and the size of the memory itself [Para.

0041]. Additionally, Narayanaswamy discloses that a series of upgrades can result in

the moving or shrinking of block 22 (original boot block) [Para. 0041]

Narayanaswamy, however, does not disclose that the new boot code is

downloaded in the section that has the current application code and overwrites the

current application code. Nor does Narayanaswamy disclose of writing the new boot

code in place of the current boot code in the first location, indicating that the new boot

code written in the first location replaces the new boot code written in the second

location.

Miller discloses that the new boot code is downloaded in the section that has the

current application code and overwrites the current application code [Col. 2, Lines 11-

16; the other parts of the segment can contain other data such as the updatable BIOS].

Miller further discloses of a method and apparatus for updating boot and BIOS code

with steps that further include writing the new boot code in place of the current boot

code in the first location, [Fig. 3; Col. 3, lines 40-51; updating the first data segment with

new data, include boot block code after data is copied into a second data segment]

indicating that the new boot code written in the first location replaces the new boot code

written in the second location [Fig. 3; Col. 6, Line 44 – Col. 7, Line 21; after the update

of the first location with new data, if the boot blocks from the first and second regions

match, then the first block is write protected (indicating this is the new boot code) and

used to boot the computer].

It would have been obvious to one skilled in the art at the time of the invention to

incorporate the teachings of Miller with Narayanaswamy by ensuring that the same boot

block is copied from the second location to the first location before the portions of the

second location can be updated within the nonvolatile storage location in the computer.

The motivation to do so is to will allow a larger amount of memory within the

memory device to be allocated for the storage of the updated main firmware.

Furthermore, this allows the second region to become the backup boot block image if

there was a power failure occurring sometime during the updating of the first boot block

to allow [See Miller, Col. 7, Lines 22-28].

6.   Regarding Claims 4 and 6, Narayanaswamy, in view of Miller, discloses all the

limitations of Claim 2 above. Miller further discloses that the boot sector is located in a

protected storage area of the storage unit [Col. 3, Lines 31-35]. Miller also discloses that

the current boot code is stored in a protected area of the storage unit, which area can

be unprotected to be overwritten under specific software conditions [Col. 3, Lines 35-

45].

7.   Regarding Claim 5, Narayanaswamy, in view of Miller, discloses all the

limitations of Claim 2 above. Miller further discloses that the boot sector is located in a

protected storage area separate from the storage unit [Col. 4; Lines 45-53; boot block

code stored on EPROM while updating is done in flash memory].

8.   Regarding Claim 7, Narayanaswamy, in view of Miller, discloses all the

limitations of Claim 2 above. Miler further discloses that the new software program is

stored in an area of the storage unit, which area can be protected and unprotected, to

be overwritten under specific software conditions [Col. 3, Lines 35-45].

9.   Regarding Claim 8, Narayanaswamy, in view of Miller, discloses all the

limitations of Claim 2 above. Narayanaswamy further discloses that the new software

program includes an intermediate application code, which is a link between the current

application code and the new application code enabling a user to parameterize the new

software program [Para. 0034, 0035, 0036, 0037, 0038; the application requests the

active boot code to start checking a checksum on the data to verify that there is new

firmware and confirms the checksum after the transfer is complete].

10.   Regarding Claims 12 - 15, Narayanaswamy, in view of Miller, in further view of

IBM, discloses all the limitations of Claims 1, 2, and 8 above. Narayanaswamy further

discloses a transmission system comprising of a transmitter for transmitting software

programs and at least a receiver for receiving software programs transmitted by a

transmission system [Fig. 3; transmission of new codes are from a separate computer

and then received and processed by microprocessor within the electronic device], the

receiver comprising means for carrying out the method as claimed in any one of Claims

1 to 8 as stated above. Narayanaswamy also discloses of a computer program product

stored on a computer readable medium which when received by a receiver, configures

for a receiver computing a set of instructions, which when loaded into the receiver,

causes the receiver to carry out the method as claimed in any one of Claims 1 to 8

[Para. 0003; main code is used for regular operation of the device]. Furthermore,

Narayanaswamy discloses of a signal for carrying a computer program, the computer

program being arranged to carry out the method as claimed in Claim 1 [Fig. 3;

transmission from a transmitter to a receiver can be by either analog or digital signal].

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Contacts

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae K. Kim, whose telephone number is (571) 270-1979. The examiner can normally be reached on Monday - Friday (8:00 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne, can be reached on (571) 272-4001. The fax phone number for submitting all Official communications is (703) 872-9306. The fax phone number for submitting informal communications such as drafts, proposed amendments, etc., may be faxed directly to the examiner at (571) 270-2979.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

/Tae K. Kim/
Art Unit 2453

January 14, 2009

/ARIO ETIENNE/
Supervisory Patent Examiner, Art Unit 2457